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Taking Your Fulfillment to the Cloud

Sandeep Chatterjee 24th April, 2018

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Introduction

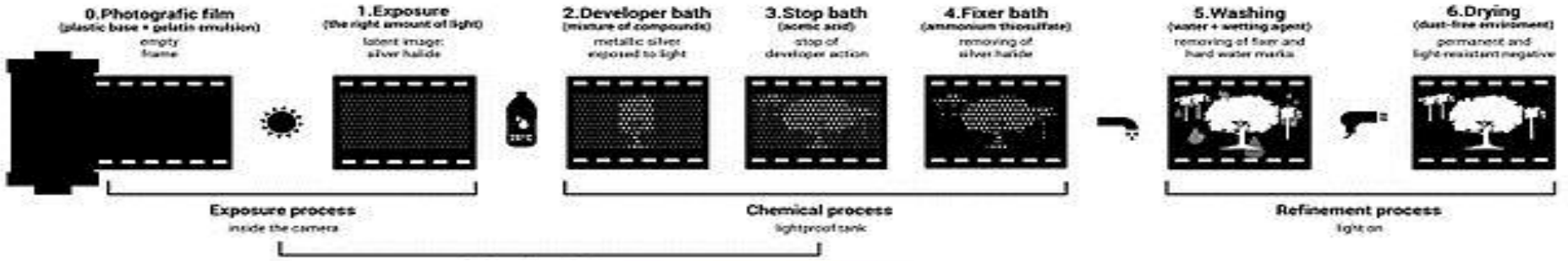
The Business World in 1980

Smooth

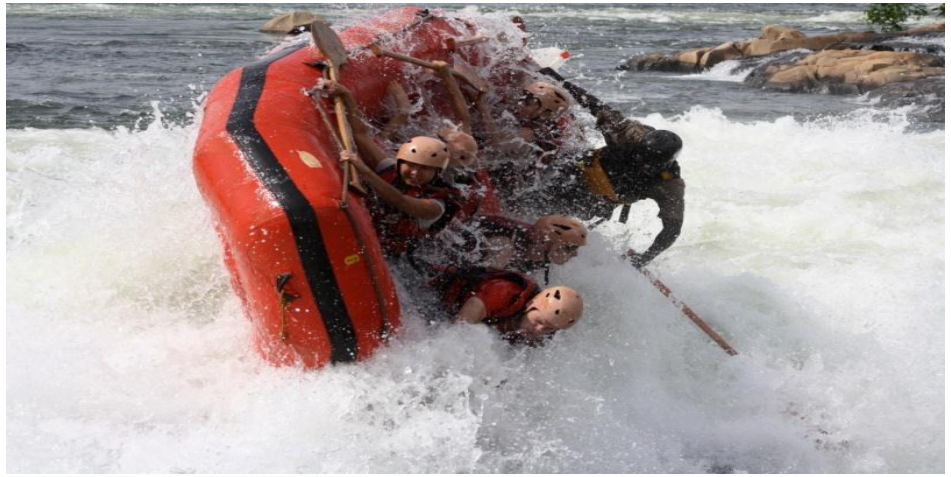
Sailing

- Sellers Market
- Predictable Sales
- Stable Demand
- Limited Competition
- Limited Product Range
- Simple Products
- Long Product Life Cycles
- Long Lead Times

Customers were prepared to wait for 2 weeks to see their photographs



It is a VUCA World in 2017



Navigation of Turbulent Rapids

- Volatile
- Uncertain
- Complex
- Ambiguous
- Fast Paced Buyers Market
- Tough Competition
- Extensive Product Range
- Shorter Product Life Cycles

Customers expect Instant Publication of their photos

Supply Chain Redefined

Traditional View of a Supply Chain

Products move downstream

Supplier **Producer** **Distributor** **Customer**

Information moves upstream

The Real World is far more Complex

Source: Unilever Website

Top 10 Problems with “Supply Chains”

- Supply Chains assume linear relationships
- Supply Chains only flow downstream
- Supply Chains are rigid and inflexible
- Supply Chains are not integrated
- Supply Chains plan at the speed of night
- Supply Chains are cost driven
- Supply Chains contain far too much waste
- Supply Chains are too slow
- Supply Chains contain too much risk
- Supply Chains are not intelligent

There are 8 Areas of Waste inherent in Supply Chains

- Transportation (Non value adding)
- Inventory (Surplus to requirements)
- Motion (Double handling)
- Waiting (Idle time if operations not timed correctly)
- Overproduction (Large lot sizes and forecast errors)
- Over-Processing (Work which adds no value)
- Defects (Errors and rework)
- Potential (Not using the full capacity of the people)

Excess Inventory

Management doesn't understand why the inventory is so high

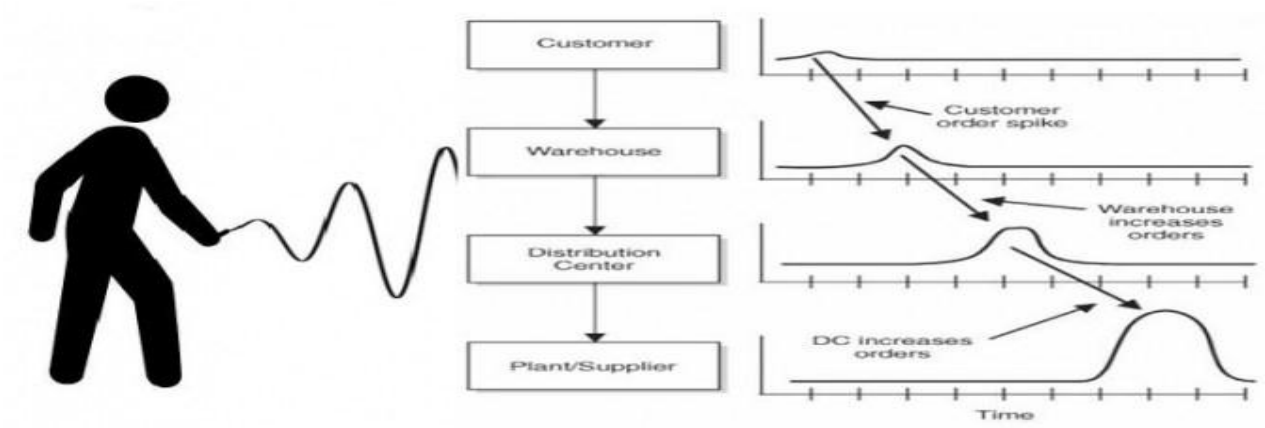
We have lots of stuff the customers do not want

Shortages

Management doesn't understand why there are shortages

We seem to be out of stock of the stuff that the customers want

It is NOT an INVENTORY Problem



- Inventory doesn’t just happen
- Inventory is the result of a planning decision to make something or buy something
- Excess Inventory and Product Shortages are the inevitable consequences of

A PLANNING Problem

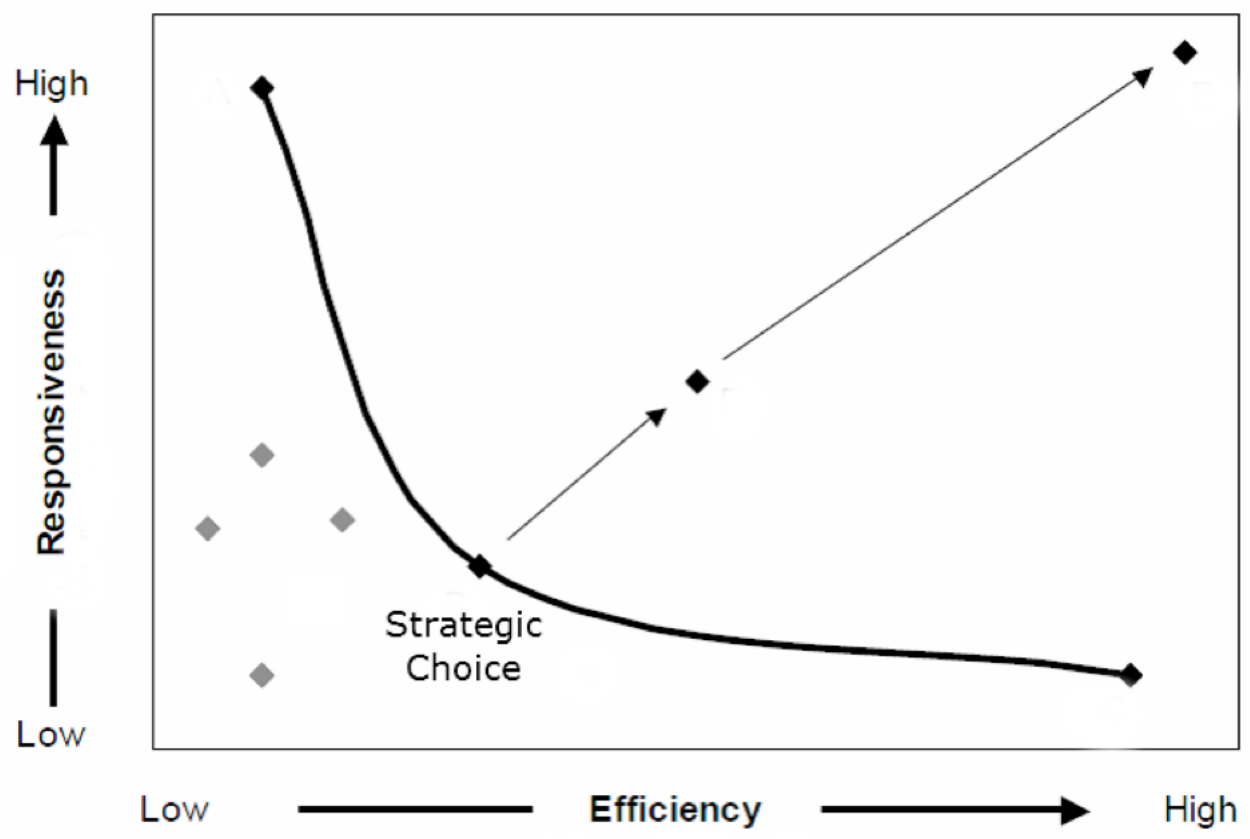
It is not about Inventory Storage

It is about Rapid Product Flow

Complex and Volatile is the "New Normal"

Supply Chain Characteristics	1965	Today
Supply Chain Complexity	Low	High
Product Life Cycles	Long	Short
Customer Tolerance Times	Long	Short
Product Complexity	Low	High
Product Customization	Low	High
Product Variety	Low	High
Long Lead Time Parts	Few	Many
Forecast Accuracy	High	Low
Pressure for Leaner Inventories	Low	High
Transactional Friction	High	Low

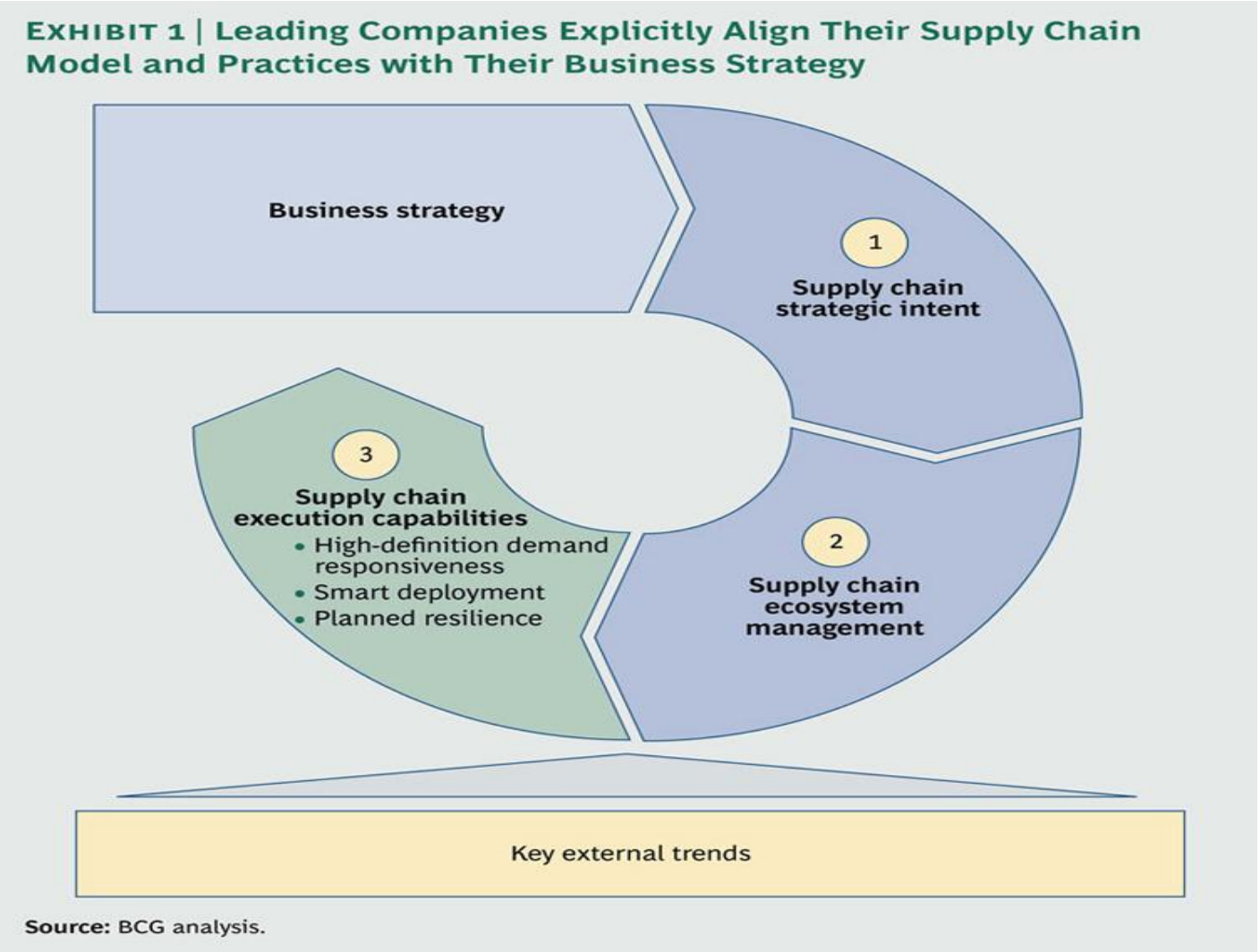
Efficient or Responsive Supply Chains?



The Demand Network is enabled by Information Technology

Source: Aberdeen Group Supply Chain Visibility 2013

Adaptive Supply Chain is the New Normal

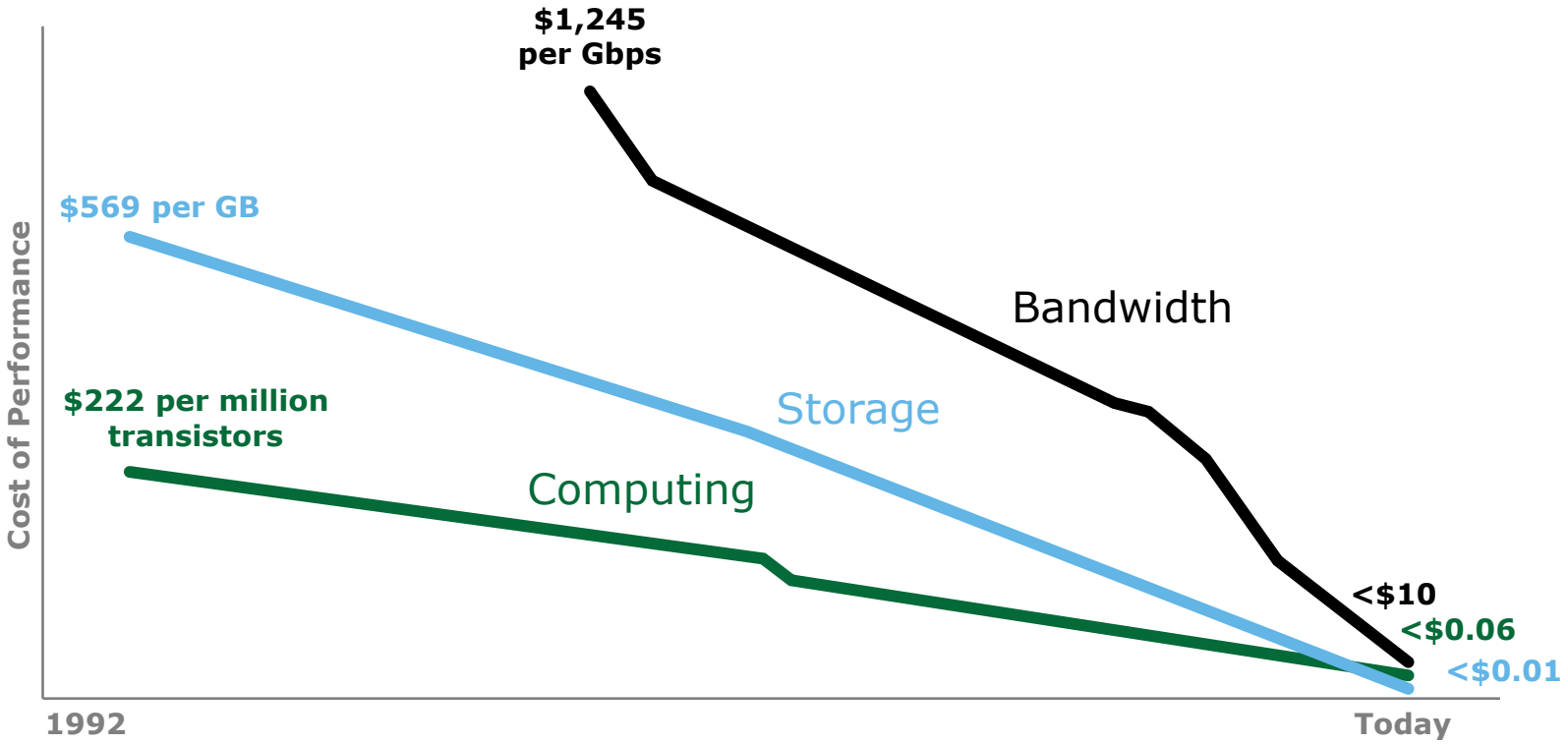


Disruption and Digitization

How will Digital Supply Networks support clients' business strategy in a digital world?

The rise of exponential technologies has created a burning platform: disrupt or be disrupted

Exponential Technology Change…



Source: Deloitte University Press

…Disrupting Supply Chains Across All Industries

Disruption within the supply chain is driving better integration across platforms, transforming industries and changing consumer expectations

Digital Supply Networks Thinking

Develop

Real World Evidence

A leading pharma company introduced a global Real World Evidence (RWE) platform to collect clinical and patient data from hospitals and third parties. This enabled the company's R&D and sales functions to better understand the patient outcome sales dynamics

Plan

Social Media Analytics

A large global retailer analyzes social media chatter to optimize local inventory assortment and enhance inventory planning (e.g., a spike in social media activity about an upcoming phone launch helps buyers improve their purchasing decisions)

Source

Strategic Sourcing

A beer brewing company leveraged advanced optimization and scenario analysis to better understand the cost impacts on supplies (e.g., glass), enabling more informed sourcing decisions

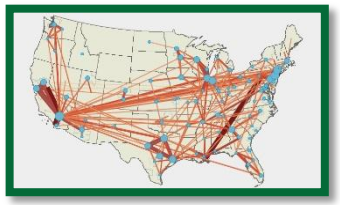
Make

Workforce Enablement

A high-tech semiconductor manufacturing company uses Smart Glasses to remotely support off-shore manufacturing and assembly through on-demand knowledge sharing

Deliver

Dynamic / Predictive Routing



A consumer products company is able to reroute distribution vehicles in real-time based on unforeseen events (e.g., stock-outs, increased demand, product recalls)

Support

Augmented Reality

Life sciences companies are using AR software to give lab technicians visual instructions to perform maintenance tasks, improving machine uptime and reducing emergency service calls

A new phase of Digital Supply Networks management has arrived: Machines are augmenting human performance

Power Generation

Late 18th century

*Steam engines and hydraulic power drive **improved productivity** and enabled industrialization*

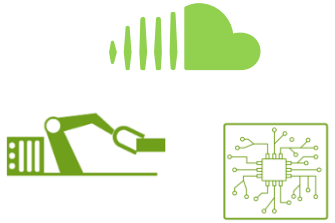
Industrialization

Start of the 20th century

*Electricity and assembly lines paved the way for **mass manufacturing, improved infrastructure**, and advances in financing and credit markets*

Electric Automation

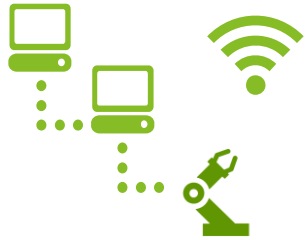
1970s to 2000s



*Advances in **computing and the internet** allow for information to be captured and transferred more quickly than ever before*

Digital Supply Networks

4th Industrial Revolution



*Execution of **connected products, customers, and supply chain and operations** - driven by a vast network of cyber-physical systems*

Optimize Traditional Objectives…

- Cost
- Innovation
- Service
- Quality
- Safety
- Flexibility

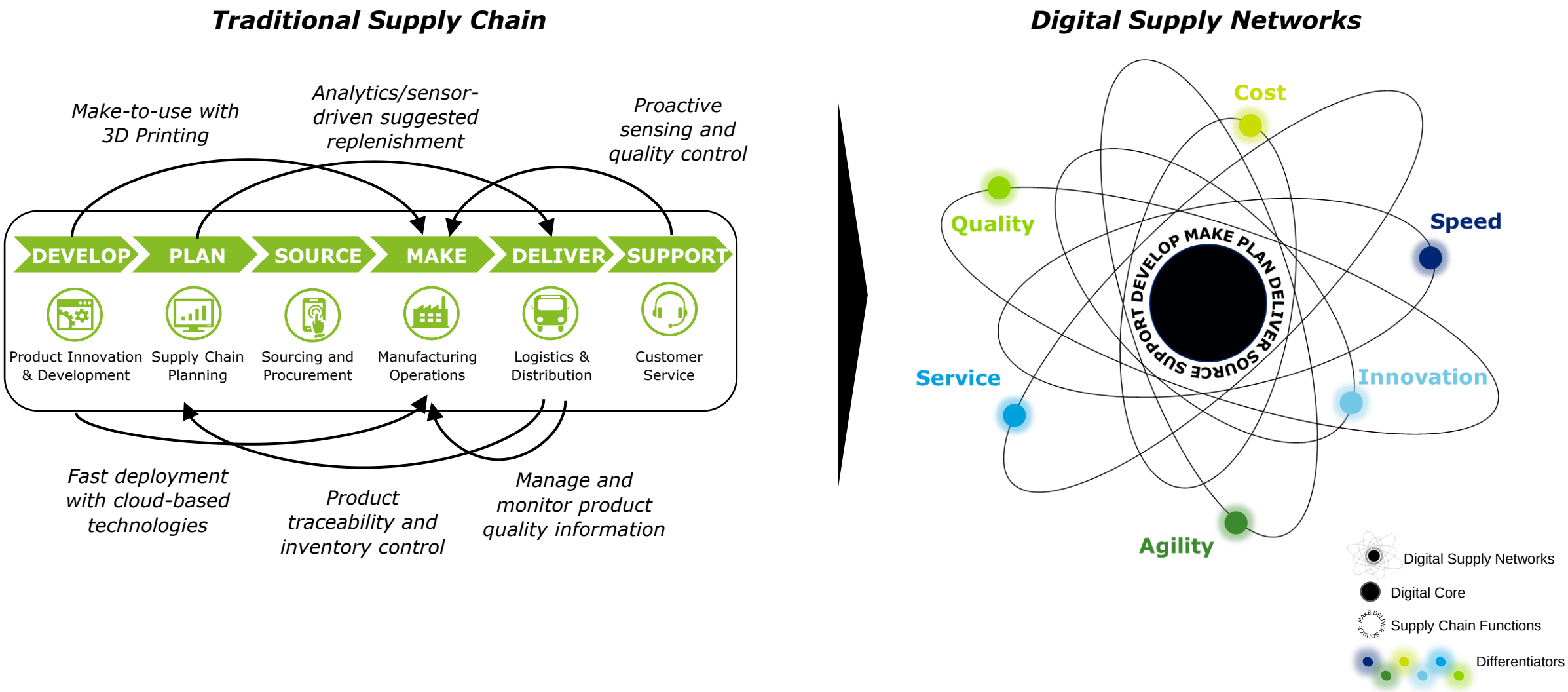
…and New Objectives…

- Revenue

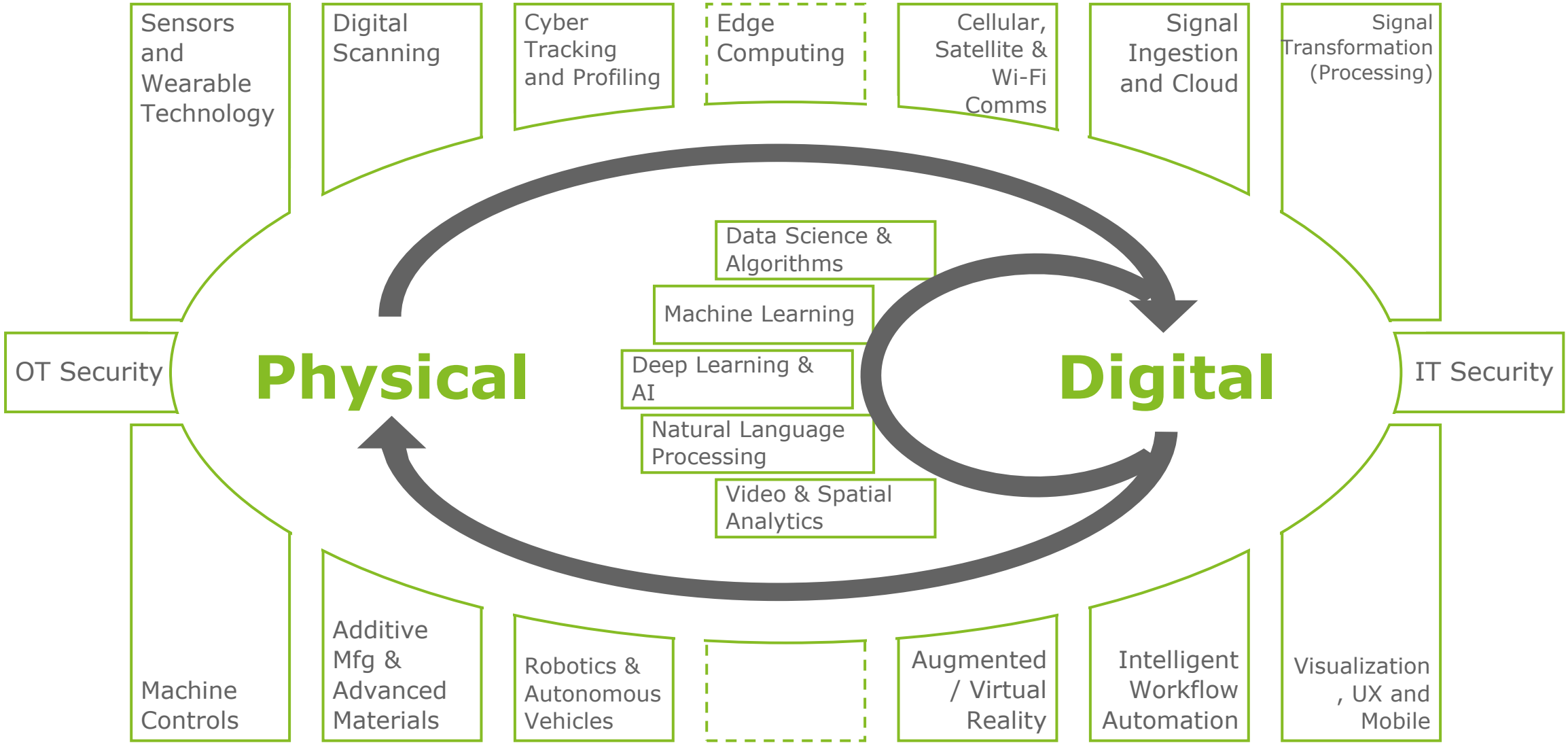
…By Better Managing

- Visibility
- Variability
- Volume
- Velocity

Traditional, linear supply chain nodes are collapsing into a set of dynamic networks, allowing dramatically increased differentiation



The flows of information and movement between the digital and physical worlds are made possible by employing several integrated DSN technologies or capabilities



E-Commerce on Cloud

Anonymous E-mail Joke

- Three beggars were begging in New York City, each with a small cup in his hand. The first one wrote “beg” on his broken steel cup and he received 10 bucks after one day

- The second one wrote “beg.com” on his cup and after one day he received hundreds of thousand dollars. Someone even wanted to take him to NASDAQ

- The third one wrote “e-beg” on his cup. Both IBM and HP sent vice presidents to talk to him about a strategic alliance and offered him free hardware and professional consulting while Larry Ellison claimed on CNBC that e-beg uses 95% Oracle technology and i2 announced e-beg Trade Matrix, a B2B industry portal to offer supply chain integration in the beggar community

E-Commerce vs E-Business

E-Business

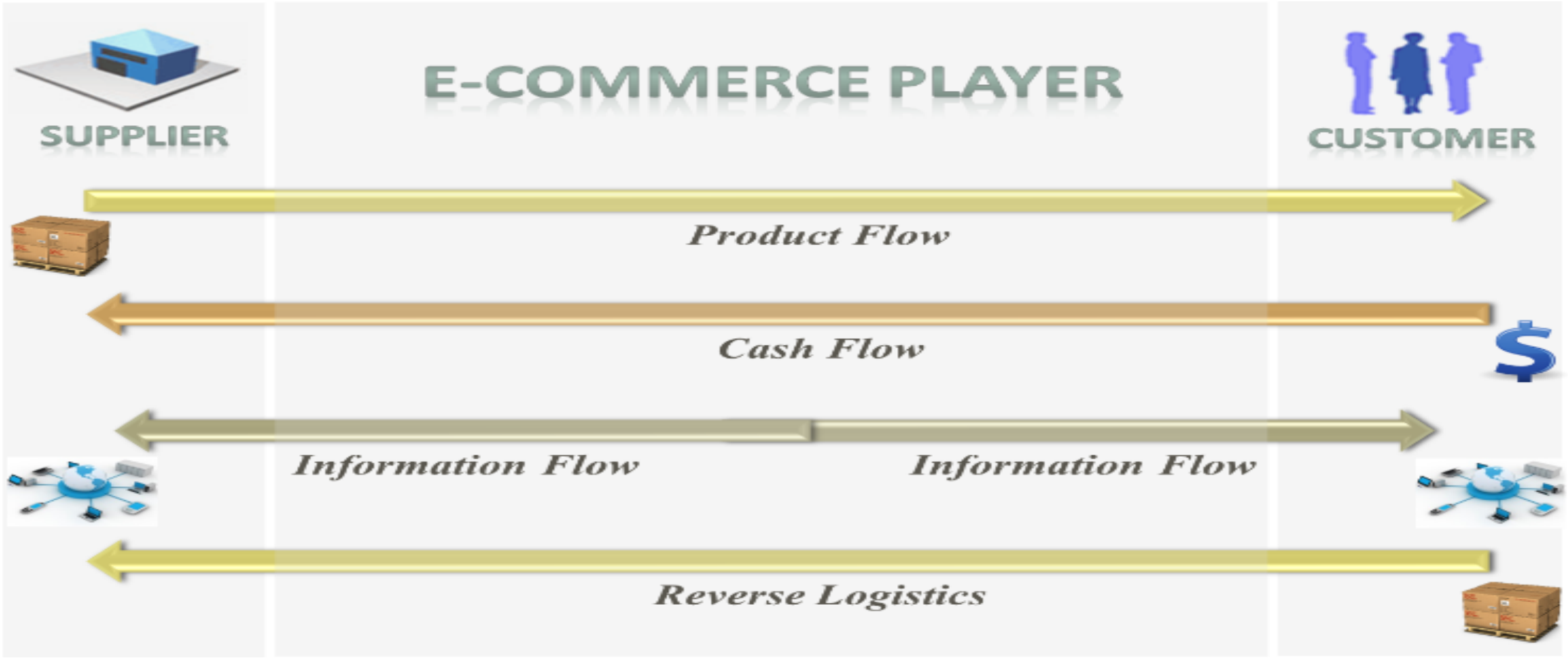
A process that an organization conducts over a computer-mediated network

- Production – procurement, ordering, stock replenishment, payment processing, production control, etc.
- Customer-focused – marketing, selling, customer order processing, etc.
- Internal or management-focused – employee service, training, recruiting, information sharing, etc.

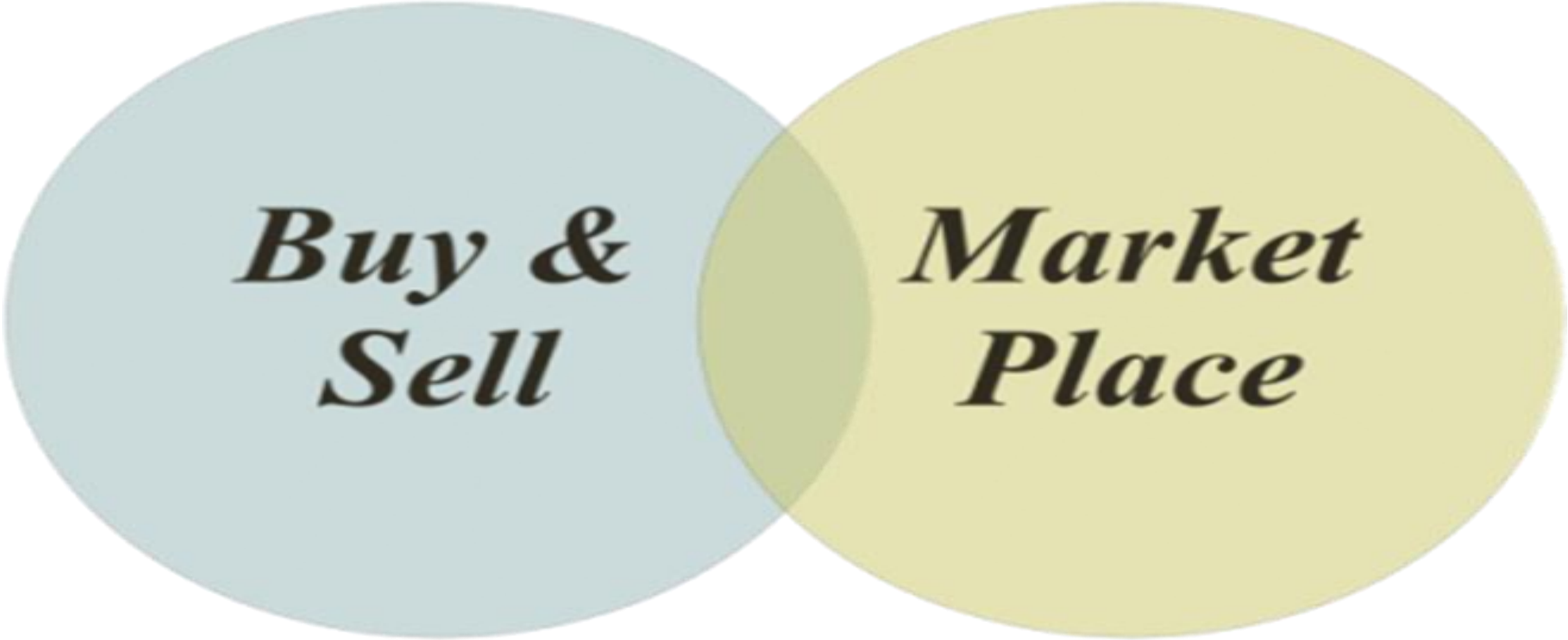
E-Commerce

- Any transaction completed over a computer-mediated network that involves the transfer of ownership or rights to use goods or services
- Completed transactions may have a zero price

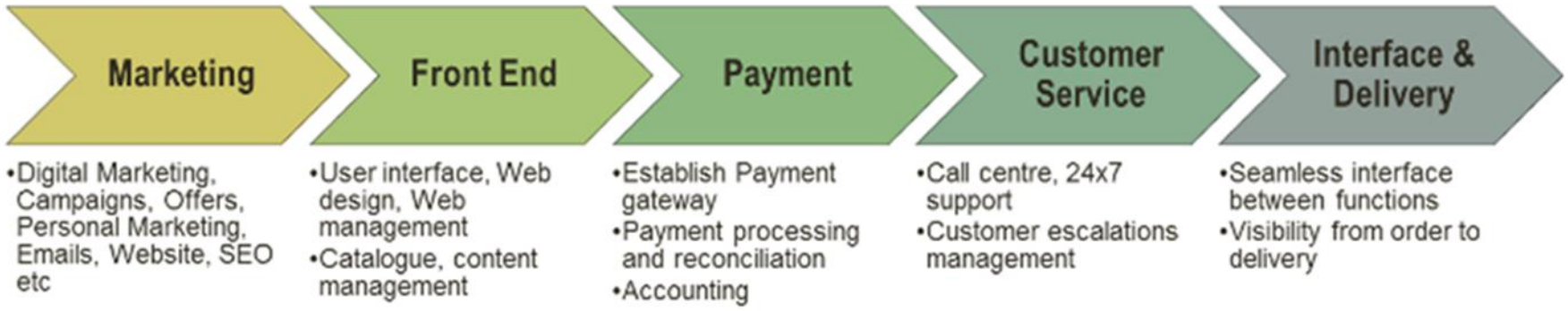
Flows in E-Commerce



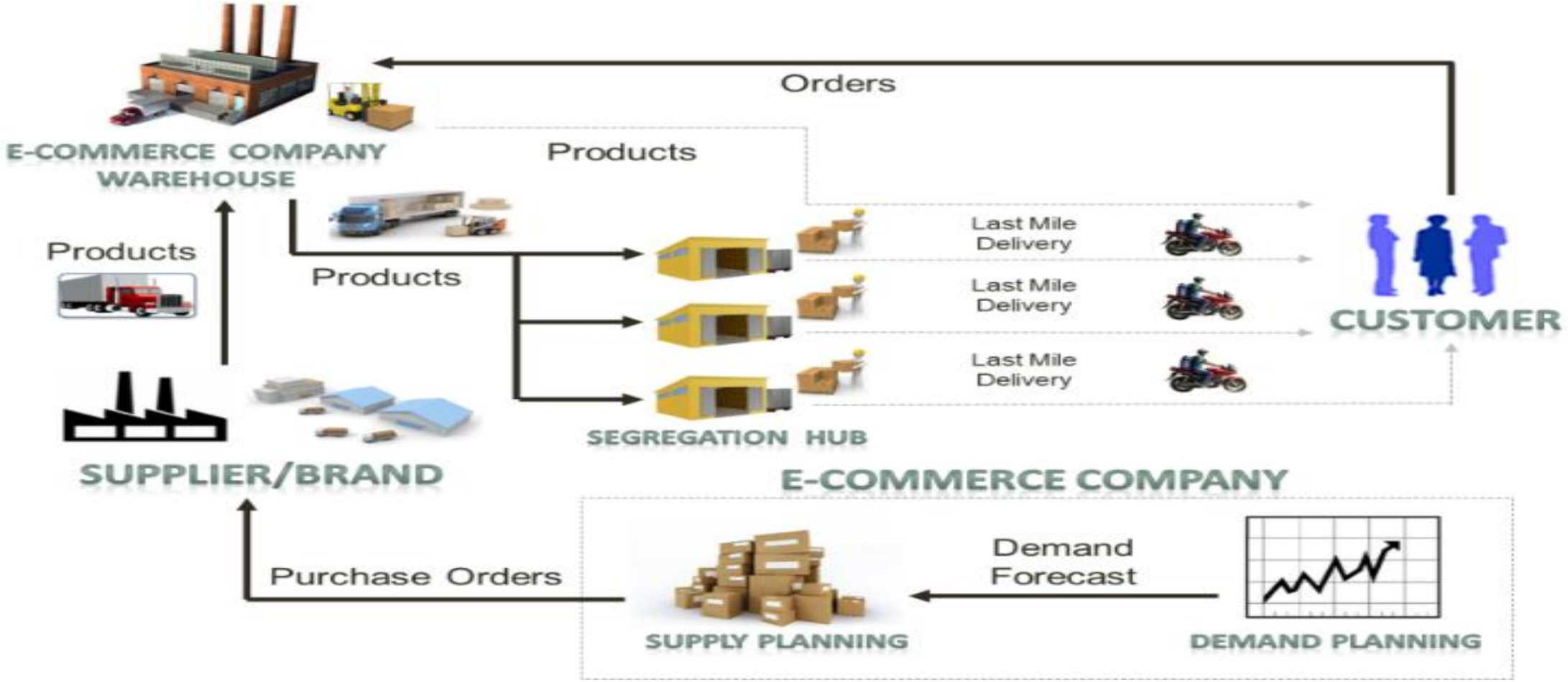
E-Commerce Business Model



E-Commerce Customer Touch Points



E-Commerce Supply Chain



E-Commerce Fulfillment

- Steps taken for receiving, processing and delivering orders to customers
- Fulfilment company is going to be that third party company that you hire to complete all of these steps
- Fulfillment vs Dropship

Why Cloud

- Security of data and transactions
- Investments tailored to the needs of e-commerce
- Support and technical expertise with better TAT
- Robust and scalable IT infrastructure
- Enhanced mobility
- High percentage of CAPEX saved and OPEX considerably reduced
- Good service can help retain long term valued customer relationships.
- Regain focus on its strategic business initiatives
- Tackle majority of issues an online business can face and fool-proof DR
- With SaaS, the costs incurred in IT are predictable and lessened as compared to traditional on-premise IT

Key Characteristics of a Cloud Platform

Dynamic

On-Demand Provisioning. The ability to add capability and capacity as rapidly as business requires

Self-Service

Creating environments, enhancing capabilities, adding capacity with less labor and reduced lead times

Multi-Business

Cloud computing delivers shared capacity across business lines, reducing duplicate environments

Scalable

React quickly to increased business demand, acquisitions, or new business models without large CapEx expenditures and increased long run-off periods

Flexible Pricing

Recapture capacity and spend for use in other areas as business demands fluctuates

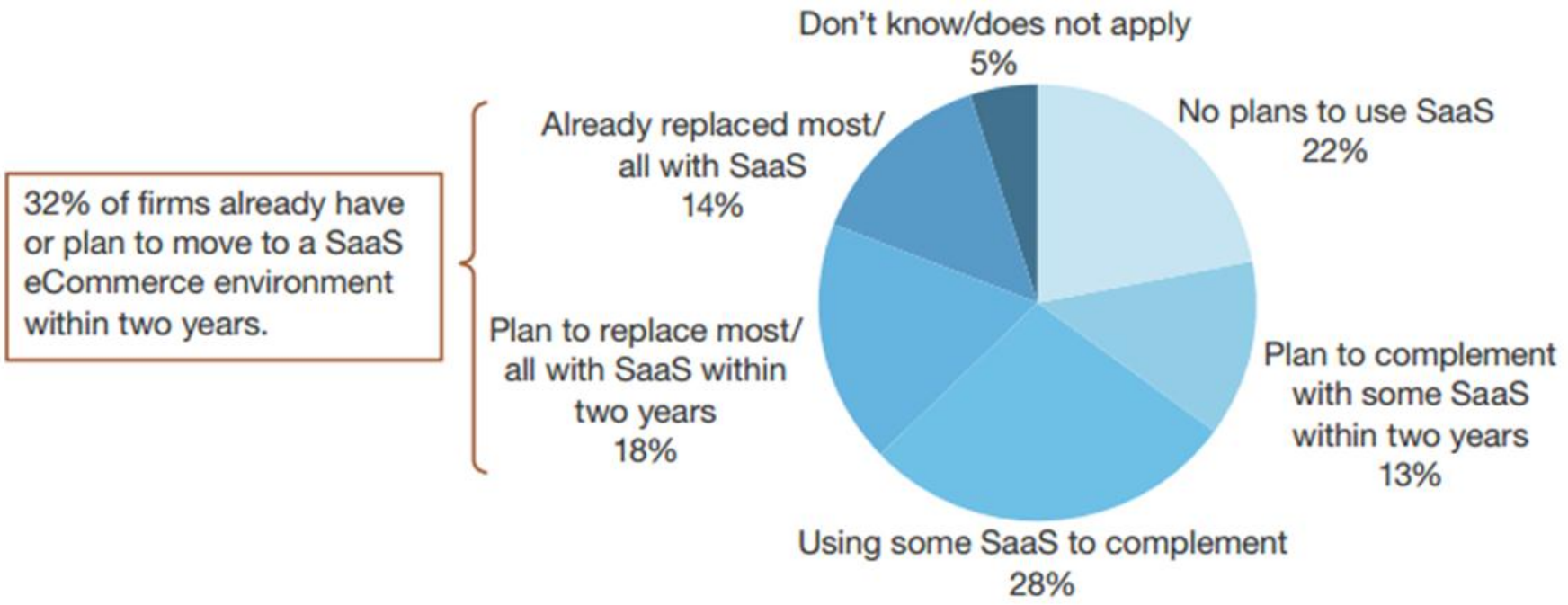
Digital-Based Architecture

Cloud architectures are based on virtualized environments defined by their use not by hardware

Customers will continue to consume a larger percentage of IT services through automated provisioning and self service capabilities

SaaS Model

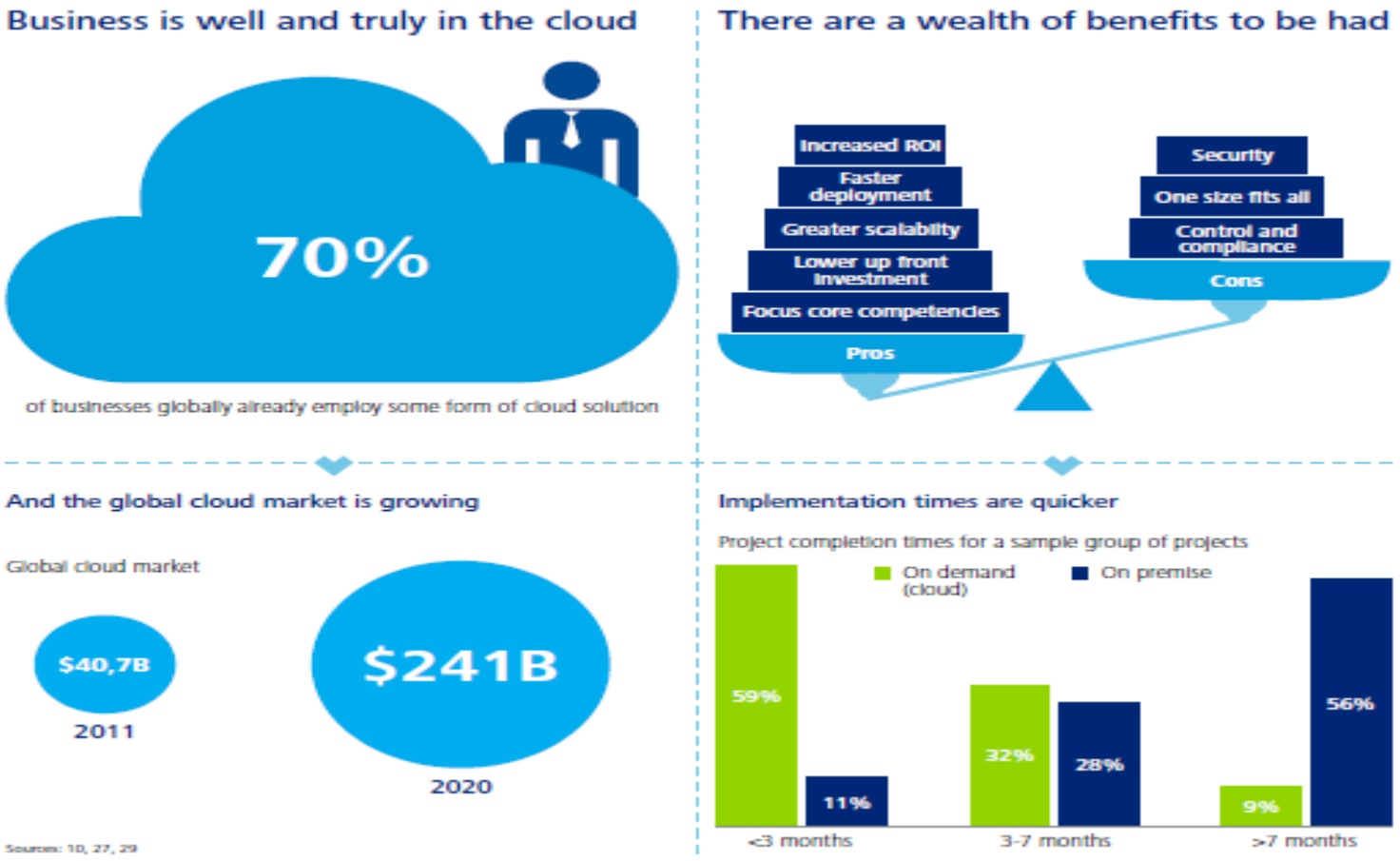
"What are your firm's plans to use software-as-a-service (SaaS) to complement or replace your existing commerce software?"



Base: 439 North American and European retail, wholesale, and manufacturing software decision-makers who are planning/have implemented commerce software (20+ employees)

"Brief: Oracle Gets The Cloud Treatment, July 2015, Forrester Research"

Trusted Model

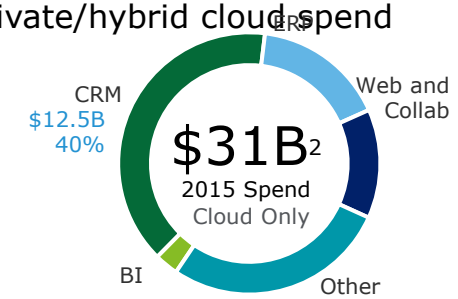


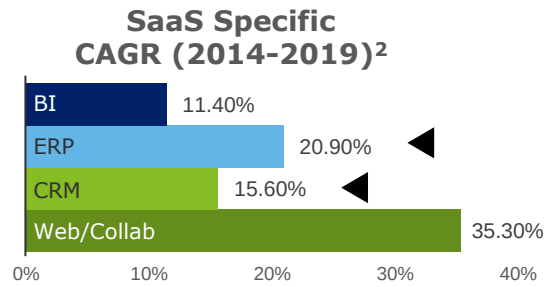
Trends

IT Spending is shifting towards cloud

Spend shows that cloud infrastructure services are most directly impacting data center providers but also presenting an opportunity to capture growing private/hybrid cloud spend

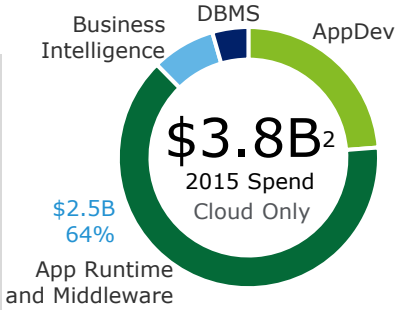
SaaS abstracts the full technology stack so customers can leverage applications on demand

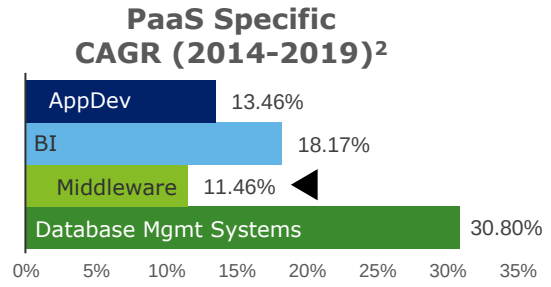




- Growing demand to productize industry and functional solutions to fill-in gaps
- Increased demand for enterprise integration as clients adopt multiple solutions

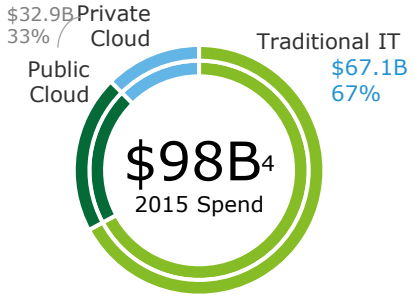
PaaS is emerging as a critical enabler of Agile/Lean and Application Rationalization

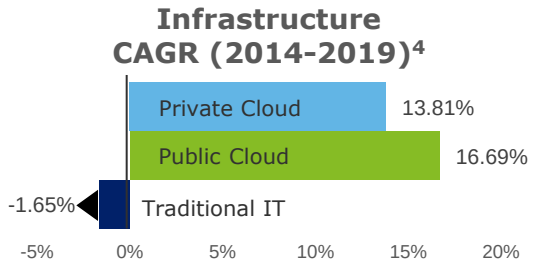




- Cloud AppDev (CAD) on PaaS represents a major opportunity to capture
- Growth in big-name SaaS into public PaaS (e.g. Force.com, ServiceNow)
- Clients trending towards turn-key private PaaS offerings (e.g. Pivotal, Apprenda)

IaaS changes the way vendors consume facilities and infrastructure capacity





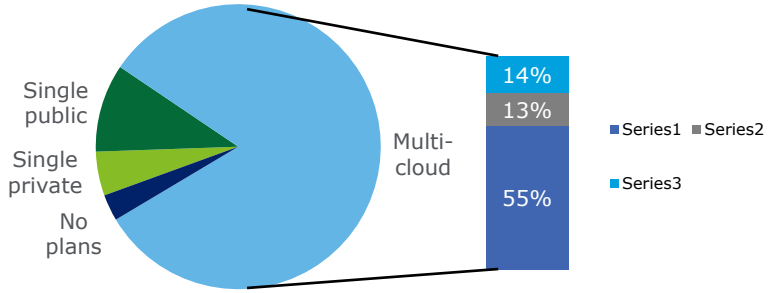
- Spend on transitional capabilities from legacy to cloud significant
- Public / Hybrid IaaS requires significant spend on multi-layer security architecture

Hybrid Model

Cloud computing infrastructure and platform spending will grow at a 30% CAGR from 2013 through 2018 compared with 5% growth for overall enterprise IT

Cloud Adoption

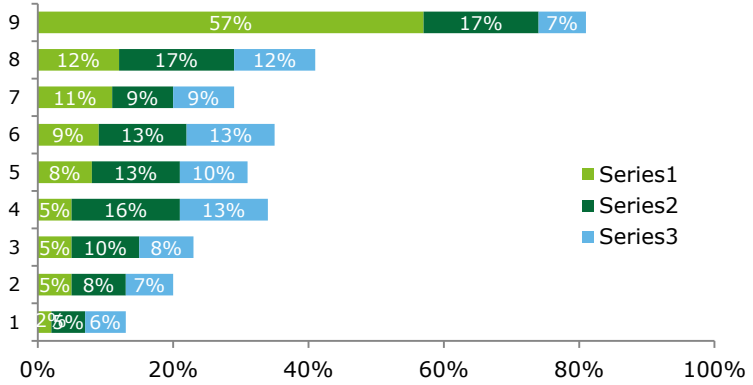
Enterprise Cloud Strategy 1000+ Employees



82% (up from 74% in '14) of enterprises have a multi-cloud strategy

Public Cloud Applications

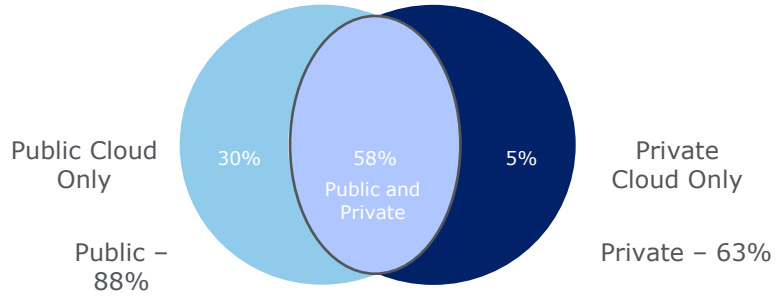
Public cloud usage – Percentage of respondents running applications



AWS Continues Its Public Cloud Domination, but Azure Makes Inroads

Hybrid is the Path Forward

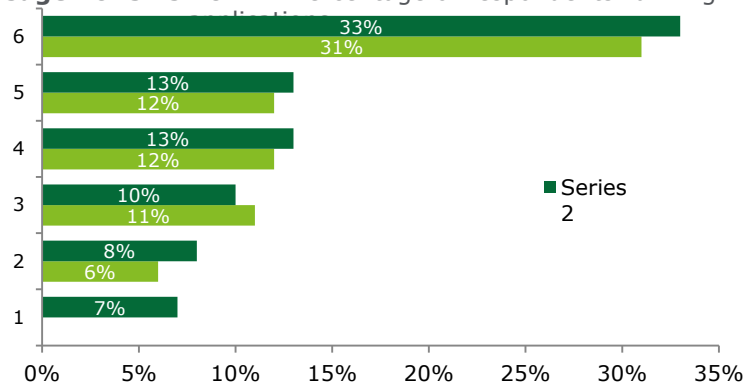
93% of respondents are using cloud



Hybrid cloud is the choice for most enterprises

Private Cloud Applications

Private cloud usage 2015 vs 2014 – Percentage of respondents running



Private Cloud Stalls in 2015, VMware remains in the lead overall

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